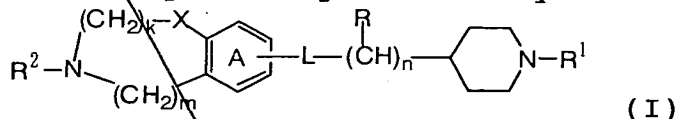
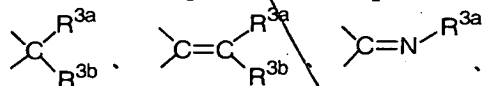


CLAIMS

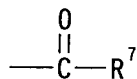
1. A compound represented by the formula:



5 wherein ring A represents benzene ring optionally having a further substituent, -L- represents -O-, -NR^{3a}-, -S-, -SO-, -SO₂-, -SO₂NR^{3a}-, -SO₂NHCONR^{3a}-, -SO₂NHC(=NH)NR^{3a}-, -C(=S)-,



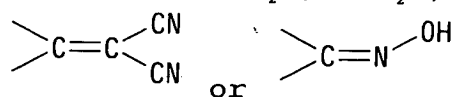
or -CONR^{3a}- (wherein R^{3a} and R^{3b} represent independently hydrogen atom, cyano group, hydroxy group, amino group, a C₁₋₆ alkyl group or a C₁₋₆ alkoxy group), n represents an integer of 0 to 6, R is hydrogen atom or a hydrocarbon group optionally having a substituent, and may be different in repetition of n, R¹ represents a hydrocarbon group optionally having a substituent or a group represented by the formula:



(wherein R⁷ represents a hydrocarbon group optionally having a substituent, R² represents hydrogen atom, an acyl group, a hydrocarbon group optionally having a substituent or a heterocyclic group optionally having a substituent, X represents a bond, O, S, SO, SO₂ or NR⁴ (wherein R⁴ represents hydrogen atom, an acyl group or a hydrocarbon group optionally having a substituent), k and m represent independently an integer of 0 to 5, and 1 < k+m < 5, or a salt thereof.

2. The compound according to claim 1, wherein n is an integer of 1 to 6.

3. The compound according to claim 1, wherein -L- is -O-, -S-, -SO-, -SO₂-, -CH₂-, -CHOH-,



Sub
C2

"041301" 6652060

Sub
b2

4. The compound according to claim 1, wherein X is a bond and $k=m=2$.

5. The compound according to claim 1, wherein X is a bond, $k=3$ and $m=1$.

5 6. The compound according to claim 1, wherein X is O, $k=2$ and $m=1$.

7. The compound according to claim 1, wherein R is hydrogen atom.

Sub
c2

10 8. The compound according to claim 1, wherein n is an integer of 2 to 4.

9. The compound according to claim 1, wherein R^1 is a C_{7-16} aralkyl group optionally having a substituent.

10. The compound according to claim 1, wherein R^2 is a C_{7-16} aralkyl group optionally having a substituent.

15 11. The compound according to claim 1, wherein R is hydrogen atom, n is an integer of 2 to 4, and R^1 and R^2 are benzyl group optionally having a substituent.

12. The compound according to claim 1, which is (i) 2-[(2-methylphenyl)methyl]-7-[2-[1-[[2-(trifluoromethyl)phenyl]methyl]-4-piperidinyl]ethoxy]-2,3,4,5-tetrahydro-1H-2-benzazepine, (ii) 2-[(2-methylphenyl)methyl]-8-[2-[1-[(4-chlorophenyl)methyl]-4-piperidinyl]ethoxy]-2,3,4,5-tetrahydro-1H-2-benzazepine, (iii) 1-(4-pyridyl)-5-[1-hydroxy-3-[1-(phenylmethyl)-4-piperidinyl]propyl]-2,3-dihydroindole, (iv) 3-[1-(phenylmethyl)-4-piperidinyl]-1-[3-(phenylmethyl)-2,3,4,5-tetrahydro-1H-3-benzazepin-7-yl]-1-propanone oxime, (v) 2-[1-[3-(phenylmethyl)-2,3,4,5-tetrahydro-1H-3-benzazepin-7-yl]-3-[1-(phenylmethyl)-4-piperidinyl]propylidene]malononitrile, (vi) 3-(phenylmethyl)-7-[[2-[1-(phenylmethyl)-4-piperidinyl]ethyl]sulfonyl]-2,3,4,5-tetrahydro-1H-3-benzazepine, (vii) 7-[[2-[1-[(2-chlorophenyl)methyl]-4-piperidinyl]ethyl]sulfinyl]-3-(phenylmethyl)-2,3,4,5-tetrahydro-1H-3-benzazepine, (viii) 7-[[2-[1-[(4-chlorophenyl)methyl]-4-piperidinyl]ethyl]sulfinyl]-3-

09807599 041301 6520860

Sub
B3S

- (phenylmethyl)-2,3,4,5-tetrahydro-1H-3-benzazepine,
 (ix) 7-[[2-[1-[(3-chlorophenyl)methyl]-4-
 piperidinyl]ethyl)sulfonyl]-3-(phenylmethyl)-2,3,4,5-
 tetrahydro-1H-3-benzazepine, (x) 8-[3-[1-[[3-(4,5-
 5 dihydro-1H-2-imidazolyl)phenyl)methyl]-4-
 piperidinyl]propoxy]-2-[(4-fluorophenyl)methyl]-
 2,3,4,5-tetrahydro-1H-2-benzazepine, (xi) 4-[[4-[2-[[2-
 [(2-methylphenyl)methyl]-2,3,4,5-tetrahydro-1H-2-
 benzazepin-8-yl]oxy]ethyl]-1-piperidinyl)methyl]-1-
 10 benzenecarboxyimide, (xii) 8-[2-[1-[[4-(4,5-
 dihydro-1H-2-imidazolyl)phenyl)methyl]-4-
 piperidinyl]ethoxy]-2-[(2-methylphenyl)methyl]-2,3,4,5-
 tetrahydro-1H-2-benzazepine, (xiii) 2-(phenylmethyl)-8-
 [2-[1-[[4-(N,N-diethylaminomethyl)phenyl)methyl]-4-
 15 piperidinyl]ethoxy]-2,3,4,5-tetrahydro-1H-2-benzazepine,
 (xiv) 2-[(2-methylphenyl)methyl]-8-[2-[1-[[3-(4,5-
 dihydro-1H-2-imidazolyl)phenyl)methyl]-4-
 piperidinyl]ethoxy]-2,3,4,5-tetrahydro-1H-2-benzazepine,
 (xv) 2-[(2-methylphenyl)methyl]-8-[2-[1-[4-(4,5-
 20 dihydro-1H-2-imidazolyl)benzoyl]-4-piperidinyl]ethoxy]-
 2,3,4,5-tetrahydro-1H-2-benzazepine, (xvi) 2-
 (phenylmethyl)-7-[[1-[[4-(4,5-dihydro-1H-2-
 imidazolyl)phenyl)methyl]-4-piperidinyl]methoxy]-
 2,3,4,5-tetrahydro-1H-2-benzazepine, (xvii) 2-
 25 (phenylmethyl)-8-[[1-[[4-(4,5-dihydro-1H-2-
 imidazolyl)phenyl)methyl]-4-piperidinyl]methoxy]-
 2,3,4,5-tetrahydro-1H-2-benzazepine, (xviii) 2-
 (phenylmethyl)-8-[2-[1-[[4-(4,5-dihydro-1H-2-
 imidazolyl)phenyl)methyl]-4-piperidinyl]ethoxy]-
 30 2,3,4,5-tetrahydro-1H-2-benzazepine, or (xix) 2-
 (phenylmethyl)-8-[2-[1-[(4-dimethylaminophenyl)methyl]-
 4-piperidinyl]ethoxy]-2,3,4,5-tetrahydro-1H-2-
 benzazepine, or a salt thereof.

13. A prodrug of the compound according to claim 1.

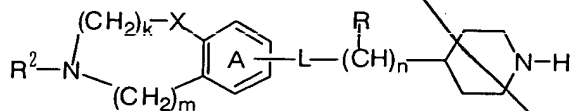
- 35 14. A process for producing the compound according to claim
 1, which comprises reacting a compound represented by the

FOET-40 66540860

Sub
B35

Sub
C2

formula:

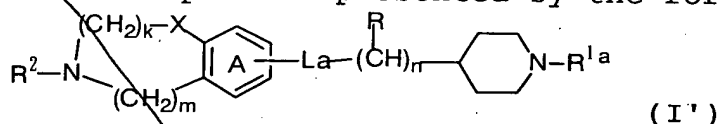


wherein respective symbols represent the same meanings as those for claim 1 or a salt thereof with a compound

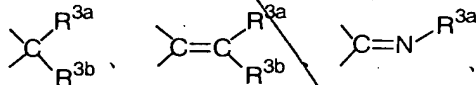
5 represented by the formula: R^1-Z^1

wherein Z^1 represents a leaving group and R^1 represents the same meaning as that for claim 1 or a salt thereof.

15. A compound represented by the formula:

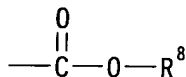


wherein ring A represents benzene ring optionally having a further substituent, $-L^a-$ represents $-NR^{3a}-$, $-S-$, $-SO-$, $-SO_2-$, $-SO_2NR^{3a}-$, $-SO_2NHCONR^{3a}-$, $-SO_2NHC(=NH)NR^{3a}-$, $-C(=S)-$,



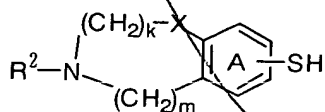
or $-CONR^{3a}-$ (wherein R^{3a} and R^{3b} represent independently

15 hydrogen atom, cyano group, hydroxy group, amino group, a C_{1-6} alkyl group or a C_{1-6} alkoxy group), n represents an integer of 0 to 6, R is hydrogen atom or a hydrocarbon group optionally having a substituent, and may be different in repetition of n , R^{1a} represents hydrogen atom or a group
20 represented by the formula:



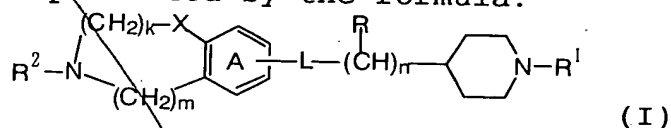
(wherein R^8 represents a hydrocarbon group optionally having a substituent), R^2 represents hydrogen atom, an acyl group, a hydrocarbon group optionally having a substituent
25 or a heterocyclic group optionally having a substituent, X represents a bond, O, S, SO, SO_2 or NR^4 (wherein R^4 represents hydrogen atom, an acyl group or a hydrocarbon group optionally having a substituent), k and m represent independently an integer of 0 to 5, $1 < k+m < 5$, or a salt
30 thereof.

16. A compound represented by the formula:

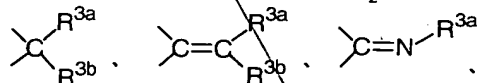


wherein ring A represents benzene ring optionally having a further substituent, R^2 represents hydrogen atom, an acyl group, a hydrocarbon group optionally having a substituent or a heterocyclic group optionally having a substituent, X represents a bond, O, S, SO, SO₂ or NR⁴ (wherein R⁴ represents hydrogen atom, an acyl group or a hydrocarbon group optionally having a substituent), k and m represent independently an integer of 0 to 5, $1 < k+m < 5$, or a salt thereof.

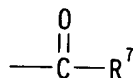
17. A pharmaceutical composition comprising a compound represented by the formula:



wherein ring A represents benzene ring optionally having a further substituent, -L- represents -O-, -NR^{3a}-, -S-, -SO-, -SO₂-, -SO₂NR^{3a}-, -SO₂NHCONR^{3a}-, -SO₂NHC(=NH)NR^{3a}-, -C(=S)-, or



or -CONR^{3a}- (wherein R^{3a} and R^{3b} represent independently hydrogen atom, cyano group, hydroxy group, amino group, a C₁₋₆ alkyl group or a C₁₋₆ alkoxy group), n represents an integer of 0 to 6, R is hydrogen atom or a hydrocarbon group optionally having a substituent, and may be different in repetition of n, R¹ represents a hydrocarbon group optionally having a substituent or a group represented by the formula:



(wherein R⁷ represents a hydrocarbon group optionally having a substituent), R² represents hydrogen atom, an acyl group, a hydrocarbon group optionally having a substituent or a heterocyclic group optionally having a substituent, X represents a bond, O, S, SO, SO₂ or NR⁴ (wherein R⁴

09807599-041301

Sub
B37

Sub
B37

represents hydrogen atom, an acyl group or a hydrocarbon group optionally having a substituent), k and m represent independently an integer of 0 to 5, and $1 < k+m < 5$, or a salt thereof or a prodrug thereof.

5 18. The composition according to claim 17, which is a thermal production promoting agent.

19. The composition according to claim 18, which is an anti-obesity agent.

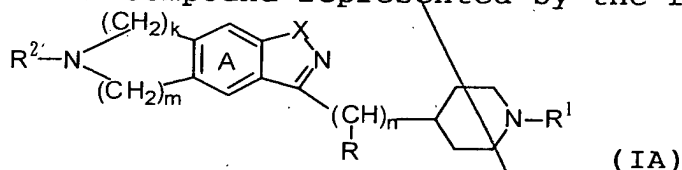
20. The composition according to claim 18, which is a lipolysis promoting agent.

10 21. The composition according to claim 18, which is an agent for preventing or treating obesity-based diseases.

Sub
C2
15 22. A method for treating obesity and obesity-based diseases, which comprises administering an effective amount of the compound according to claim 1 to a mammal.

23. Use of the compound according to claim 1 for producing a thermal production promoting agent.

24. A compound represented by the formula:



20 wherein ring A represents benzene ring optionally having a substituent, k and m represent independently an integer of 0 to 5, $1 < k+m < 5$, n represents an integer of 1 to 6, R represents hydrogen atom or a hydrocarbon group optionally having a substituent, and may be different in repetition

25 of n, R¹ and R² represent independently hydrogen atom, an acyl group or a hydrocarbon group optionally having a substituent, and X represents O or S, or a salt thereof.

25. The compound according to claim 24, wherein $k=m=2$.

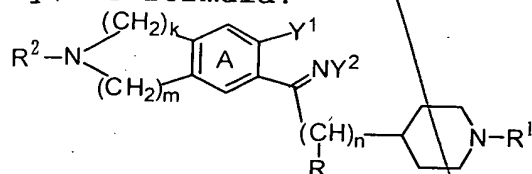
26. The compound according to claim 24, wherein $k=3$ and $m=1$.

30 27. The compound according to claim 24, wherein R is hydrogen atom.

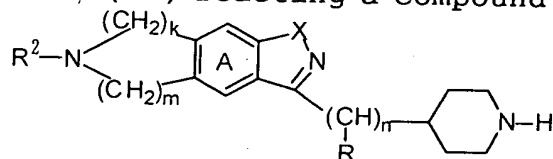
28. The compound according to claim 24, wherein n is an integer of 2 to 4.

FOET-40" 66520860

29. The compound according to claim 24, wherein R^1 is a C_{7-16} aralkyl group optionally having a substituent.
30. The compound according to claim 24, wherein R^2 is a C_{7-16} aralkyl group optionally having a substituent.
- 5 31. The compound according to claim 24, wherein X is O.
32. The compound according to claim 24, wherein R is hydrogen atom, n is an integer of 2 to 4, R^1 and R^2 are benzyl group optionally having a substituent.
33. The compound according to claim 24, which is 3-[3-[1-(phenylmethyl)-4-piperidinyl]propyl]-7-(phenylmethyl)-6,7,8,9-tetrahydro-5H-isoxazolo[4,5-h][3]benzazepine; 3-[3-[1-[(2-chlorophenyl)methyl]-4-piperidinyl]propyl]-6-(phenylmethyl)-6,7,8,9-tetrahydro-5H-isoxazolo[5,4-h][2]benzazepine; or 3-[3-[1-(phenylmethyl)-4-piperidinyl]propyl]-6,7,8,9-tetrahydro-5H-isoxazolo[5,4-h][1]benzazepine or a salt thereof.
- 15 34. A prodrug of the compound according to claim 24.
35. A process for producing the compound according to claim 24, which comprises (i) ring-closing a compound represented by the formula:
- 20

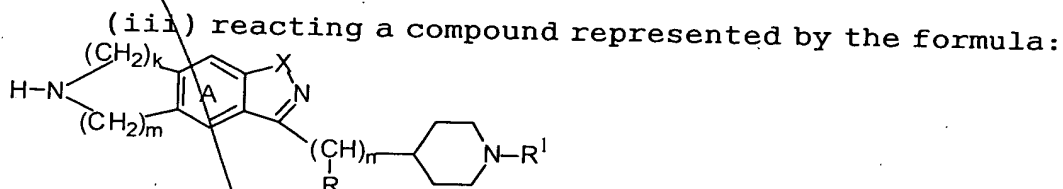


- wherein Y^1 represents OZ^a , SZ^a (wherein Z^a represents hydrogen atom, a halogen atom, an alkyl group, or an acyl group), nitro group or a halogen atom, Y^2 represents hydrogen atom or OZ^b (wherein Z^b represents hydrogen atom or an acyl group) and other symbols represent the same meanings as those for claim 24 or a salt thereof, or
- 25 (ii) reacting a compound represented by the formula:

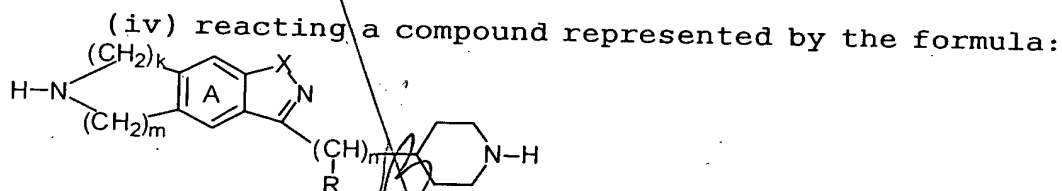


30 wherein respective symbols represent the same meanings as

those for claim 24 or a salt thereof, with a compound represented by the formula: R^1-Z^1 wherein Z^1 represents a leaving group, and R^1 represents the same meaning as that for claim 24 or a salt thereof, or

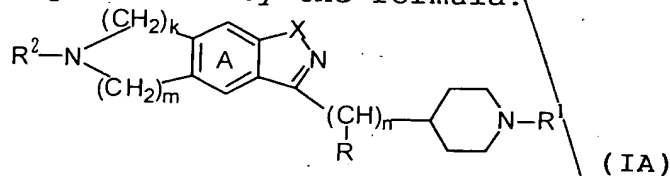


wherein respective symbols represent the same meanings as those for claim 24 or a salt thereof, with a compound represented by the formula: R^2-Z^1 wherein Z^1 represents a leaving group, and R^2 represents the same meaning as that for claim 24 or a salt thereof, or



wherein respective symbols represent the same meanings as those for claim 24 or a salt thereof, with a compound represented by the formula: R^1-Z^1 wherein Z^1 represents a leaving group, and R^1 represents the same meaning as that for claim 24 or a salt thereof.

36. A pharmaceutical composition comprising a compound represented by the formula:



wherein ring A represents benzene ring optionally having a substituent, k and m represent independently an integer of 0 to 5, $1 < k+m < 5$, n represents an integer of 1 to 6, R represents hydrogen atom or a hydrocarbon group optionally having a substituent, and may be different in repetition

09807599-04101

of n, R¹ and R² represent independently hydrogen, an acyl group or a hydrocarbon group optionally having a substituent, and X represents O or S, or a salt thereof or a prodrug thereof.

- 5 37. The composition according to claim 36, which is a thermal production promoting agent.
38. The composition according to claim 37, which is an anti-obesity agent.
39. The composition according to claim 37, which is a lipolysis promoting agent.
- 10 40. The composition according to claim 37, which is an agent for preventing or treating obesity-based diseases.
41. A method for treating obesity or obesity-based diseases, which comprises administering an effective amount of the
- 15 42. Use of the compound according to claim 24 for producing a thermal production promoting agent.

add
A3

09807599 041301